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CLAIMS:

1. A composition for use as a vaccine, comprising:

(a) a carrier comprising a continuous phase of a hydrophobic substance;

(b) liposomes;

(c) an antigen; and,

(d) a suitable adjuvant.

2. The composition of claim 1, wherein the hydrophobic substance is a liquid.

3. The composition of claim 2, wherein the carrier is an oil or a water-in-oil emulsion.

4. The composition of claim 3, wherein the oil is mineral oil, a vegetable oil or a nut oil.

5. The composition of claim 3, wherein the adjuvant is alum, another compound of aluminum or TiterMax.

6. The composition of claim 5, wherein the adjuvant is alum.

7. The composition of claim 3, wherein the antigen is a suitable native, non-native, recombinant or denatured protein or peptide, or a fragment thereof.

8. The composition of claim 7, wherein the antigen is a viral, bacterial, protozoal or mammalian antigen.

9. The composition of claim 8, wherein the antigen is capable of eliciting an antibody that recognizes a native epitope.

10. The composition of claim 9, wherein the native epitope is in a mammal.

11. The composition of claim 10, wherein the mammal is a horse, a rabbit, a deer or a cat.

12. The composition of claim 7, wherein the antigen is zona pellucida, alcohol dehydrogenase, hepatitis B or streptokinase.

13. The composition of claim 3, wherein the liposomes comprise unesterified cholesterol and a phospholipid with at least one head group selected from the group consisting of phosphoglycerol, phosphoethanolamine, phosphoserine, phosphocholine and phosphoinositol.

14. The composition of claim 3, wherein the liposomes comprise lipids in phospholipon 90 G.

15. The composition of claim 3 which is essentially free of lipid A.

16. The composition of claim 4, wherein the antigen is zona pellucida, the adjuvant is alum, and the vaccine provides effective long-term immunocontraception in a mammal.

17. The composition of claim 16, wherein the oil is mineral oil and the composition is essentially free of lipid A.

18. A method for potentiating an immune response in an animal, which method comprises administering to the animal an effective amount of a vaccine composition comprising:

(a) a carrier comprising a continuous phase of a hydrophobic substance;

(b) liposomes;

(c) an antigen; and,

(d) a suitable adjuvant.

19. The method of claim 18, wherein the hydrophobic substance is a liquid.

20. The method of claim 18, wherein the carrier is an oil or a water-in-oil emulsion.

21. The method of claim 20, wherein the oil is mineral oil, a vegetable oil or a nut oil.

22. The method of claim 21, wherein the adjuvant is alum.

23. The method of claim 21, wherein the antigen is zona pellucida, alcohol dehydrogenase, hepatitis B or streptokinase.

24. The method of claim 20, wherein the antigen is capable of eliciting an antibody that recognizes a native epitope.

25. The method of claim 24, wherein the native epitope is in a mammal.

26. The method of claim 25, wherein the mammal is a horse, a rabbit, a deer or a cat.

27. The method of claim 20, wherein the composition is substantially free of lipid A.

28. A method of preparing a vaccine composition comprising the steps of:

(a) encapsulating an antigen or an antigen/adjuvant complex in liposomes to form liposome-encapsulated antigen;

(b) mixing the liposome-encapsulated antigen with a carrier comprising a continuous phase of a hydrophobic substance; and,

(c) adding a suitable adjuvant if an antigen/adjuvant complex is not used in part (a).

29. The method of claim 28, wherein the liposome-encapsulated antigen is freeze-dried.

30. The method of claim 29, wherein an antigen without adjuvant is encapsulated in the liposomes before adding the adjuvant and the liposome-encapsulated antigen is freeze-dried after adding the adjuvant to form a freeze-dried liposome-encapsulated antigen with external adjuvant.

31. The method of claim 30, wherein the adjuvant is added to pyrogen-free water before the adjuvant is added to the liposome-encapsulated antigen.

32. The method of claim 31, wherein the freeze-dried liposome-encapsulated antigen with external adjuvant is mixed with the carrier, and wherein an aqueous medium is mixed with the carrier to form an emulsion of water-in-the hydrophobic substance.

33. The method of claim 30, wherein the freeze-dried liposome-encapsulated antigen with external adjuvant is then mixed with the carrier.

34. The method of claim 29, wherein the liposome-encapsulated antigen comprises an antigen/adjuvant complex, and wherein the freeze-dried liposome-encapsulated antigen is mixed with the carrier, and wherein an aqueous medium is mixed with the carrier to form an emulsion of water-in-the hydrophobic substance.

35. The method of claim 28, wherein:

(i) the liposome-encapsulated antigen is mixed with an aqueous medium before being mixed with the carrier;

(ii) the adjuvant is added to the carrier before the carrier is mixed with the liposome-encapsulated antigen; and,

(iii) the carrier is mixed with the liposome-encapsulated antigen to form an emulsion of water-in-the hydrophobic substance.

36. The method of claim 28, wherein:

(i) the liposome-encapsulated antigen comprises an antigen/adjuvant complex;

(ii) the liposome-encapsulated antigen is mixed with an aqueous medium before being mixed with the carrier; and,

(iii) the liposome-encapsulated antigen is mixed with the carrier to form an emulsion of water-in-the hydrophobic substance.

37. The method of claim 28, wherein the hydrophobic substance is a liquid.

38. The method of claim 37, wherein the liquid is an oil.

39. The method of claim 38, wherein the oil is mineral oil.

40. The method of claim 28, wherein the adjuvant is alum.

41. The method of claim 28, wherein the antigen is zona pellucida, alcohol dehydrogenase, hepatitis B or streptokinase.

42. The method of claim 28, wherein the adjuvant is alum and the carrier is an oil or a water-in-oil emulsion.

43. The method of claim 33, wherein the oil is mineral oil.